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## **SECTION 09652 - SHEET FLOOR COVERINGS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes the following:
  - 1. Sheet floor coverings without backing.
- B. Related Sections include the following:
  - 1. Division 9 Section "Resilient Wall Base and Accessories" for resilient wall base, reducer strips, and other accessories installed with sheet floor coverings.

#### **1.3 SUBMITTALS**

- A. Product Data: For each type of product specified.
- B. Shop Drawings: Show location of seams and edges. Indicate location of columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutout locations.
- C. Samples for Verification: In manufacturer's standard size, but not less than 6-by-9-inch (150-by-230-mm) sections of each different color and pattern of floor covering required.
  - 1. Include similar Samples of installation accessories involving color selection.
  - 2. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches (230 mm) long, of each color required.
- D. Heat-Welded Seam Samples: For each flooring product and welding bead color and pattern combination required; with seam running lengthwise and in center of 6-by-9-inch (150-by-230-mm) Sample applied to a rigid backing and prepared by Installer for this Project.
- E. Qualification Data: For Installer.
- F. Maintenance Data: For sheet floor coverings to include in the maintenance manuals specified in Division 1.

#### **1.4 QUALITY ASSURANCE**

- A. Installer Qualifications: Engage an installer who is competent in the technique required by manufacturer for heat-welding seams.
  - 1. Engage an installer who employs workers for this Project that are trained or certified by floor covering manufacturer for heat-welding techniques required.

- B. Source Limitations: Obtain each type, color, and pattern of sheet floor covering specified from one source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
- C. Fire-Test-Response Characteristics: Provide products with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Critical Radiant Flux: 0.45 W/sq. cm or greater when tested per ASTM E 648.
  - 2. Smoke Density: Maximum specific optical density of 450 or less when tested per ASTM E 662.
- D. Comply with EPA regulations regarding VOC (Volatile Organic Compound) content of adhesives.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet floor coverings and installation accessories to Project site in manufacturer's original, unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store floor coverings and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C). Store rolls as recommended by manufacturer.
- C. Move sheet floor coverings and installation accessories into spaces where they will be installed at least 48 hours before installation, unless longer conditioning periods are recommended in writing by manufacturer.

#### 1.6 PROJECT CONDITIONS

- A. Maintain a temperature of not less than 70 degrees F (21 degrees C) or more than 95 degrees F (35 degrees C) in spaces to receive sheet floor coverings for at least 48 hours before installation, during installation, and for at least 48 hours after installation, unless manufacturer's written recommendations specify longer time periods. After post-installation period, maintain a temperature of not less than 55 degrees F (13 degrees C) or more than 95 degrees F (35 degrees C).
- B. Do not install sheet floor coverings until they are at the same temperature as the space where they are to be installed.
- C. Close spaces to traffic during sheet floor covering installation and for time period after installation recommended in writing by manufacturer but no less than 48 hours.
- D. Install sheet floor coverings and accessories after other finishing operations, including painting, have been completed.
- E. Where de-mountable partitions and other items are indicated for installation on top of sheet floor coverings, install floor coverings before these items are installed.
- F. Do not install sheet floor coverings over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive, as determined by floor covering manufacturer's recommended bond and moisture test.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
  - 1. Furnish not less than 10 linear feet (3 linear m) in roll form for each 500 linear feet (150 linear m) or fraction thereof, of each different composition, wearing surface, color, and pattern of sheet floor covering installed.
  - 2. Deliver extra materials to Owner.

1.8 WARRANTY

- A. Provide manufacturer's standard one-year warranty against defects in manufacturing and workmanship of resilient flooring products. Provide manufacturer's standard limited wear warranty.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the work include, but are not limited to, those indicated in the sheet flooring schedule at the end of Part 3.
- B. Color and Pattern: As indicated in color schedule in the drawings.
- C. Sheet Width: As indicated with product type.
- D. Seaming Method: Heat-welded and cold-welded as specified with each product type.

2.2 SHEET FLOOR COVERINGS

- A. Sheet Floor Coverings: Products complying with ASTM F 1303 and with requirements specified in the Sheet Floor Covering Schedule.
  - 1. ASTM F1303-2 and with requirements specified in the sheet floor covering schedule for sheet vinyl floor covering with backing.
  - 2. ASTM F1913-02 and with requirements specified in the sheet floor covering schedule for sheet vinyl floor covering without backing.
  - 3. ASTM F2034-01 and with requirements specified in the sheet floor covering schedule for sheet linoleum floor coverings.
  - 4. ASTM1859-00 and with requirements specified in the sheet floor covering schedule for sheet rubber floor coverings without backing.

2.3 INSTALLATION ACCESSORIES

- A. Trowel-able Leveling and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by floor covering manufacturer for applications indicated.

- B. Adhesives: Water-resistant type recommended by manufacturer to suit sheet floor covering and substrate conditions indicated.
- C. Heat-Welding Bead: Solid-strand product of floor covering manufacturer for heat welding seams.
  - 1. Color: Match floor covering, unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where installation of sheet floor coverings will occur, with Installer present, for compliance with manufacturer's requirements. Verify that substrates and conditions are satisfactory for floor covering installation and comply with requirements specified.
- B. Concrete Sub-floors: Verify that concrete slabs comply with ASTM F 710 and the following:
  - 1. Sub-floor finishes comply with requirements specified in Division 3 Section "Cast-in-Place Concrete" for slabs receiving resilient flooring.
  - 2. Verify that substrates are dry and free of curing compounds, sealers and hardeners.
  - 3. Sub-floor shall be free of cracks, ridges, depressions, scale, and foreign deposits.
  - 4. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
  - 5. Moisture Testing:
    - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
    - b. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. General: Comply with sheet floor covering manufacturer's written installation instructions for preparing substrates indicated to receive sheet floor coverings.
- B. Use trowel-able leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Broom and vacuum clean substrates to be covered immediately before installing sheet floor coverings. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Do not proceed with installation until unsatisfactory conditions have been corrected.
- E. Move floor coverings and installation materials into spaces where they will be installed at least 48 hours in advance of installation. Do not install floor coverings until they are same temperature as space where they are to be installed.

### 3.3 INSTALLATION

- A. General: Comply with sheet floor covering manufacturer's written installation instructions.
- B. Unroll sheet floor coverings and allow them to stabilize before cutting and fitting, if recommended in writing by manufacturer.
- C. Lay out sheet floor coverings to comply with the following requirements:
  - 1. Maintain uniformity of sheet floor covering direction.
  - 2. Arrange for a minimum number of seams and place them in inconspicuous and low-traffic areas, and not less than 6 inches (150 mm) away from parallel joints in flooring substrates.
  - 3. Match edges of sheet floor coverings for color shading and pattern at seams according to manufacturer's written recommendations.
  - 4. Avoid cross seams.
- D. Scribe, cut, and fit sheet floor coverings to butt neatly and tightly to vertical surfaces and permanent fixtures, including built-in furniture, cabinets, pipes, outlets, edgings, door frames, thresholds, and nosings.
- F. Extend sheet floor coverings into toe spaces, door reveals, closets, and similar openings.
- E. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent, nonstaining marking device.
- F. Adhere sheet floor coverings to flooring substrates to comply with floor covering manufacturer's written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.
  - 1. Produce completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
  - 2. Form integral flash cove base by flashing floor covering up vertical surfaces. Support floor covering at horizontal and vertical junction with cove strip. Butt floor covering at top of base against cap strip.
- G. Heat-Welded Seams: Rout joints and heat weld with welding bead, permanently fusing sections into a seamless floor covering. Prepare, weld, and finish seams according to manufacturer's written-instructions and ASTM F 1516 to produce surfaces flush with adjoining floor-covering surfaces.
- H. Hand roll sheet floor coverings in both directions from center out to embed floor coverings in adhesive and eliminate trapped air. At walls, door casings, and other locations where access by roller is impractical, press floor coverings firmly in place with flat-bladed instrument.

### 3.4 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing sheet floor coverings:
  - 1. Remove adhesive and other surface blemishes using cleaner recommended by floor covering manufacturer.
  - 2. Sweep or vacuum floor thoroughly.
  - 3. Do not wash floor covering until after time period recommended by floor covering manufacturer.
  - 4. Damp-mop floor to remove marks and soil.

- B. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by floor covering manufacturer.
  - 1. Apply two coats of protective floor polish to sheet floor covering surfaces that are free from soil, visible adhesive, and surface blemishes, if recommended in writing by manufacturer.
    - a. Use commercially available product acceptable to floor covering manufacturer.
    - b. Coordinate selection of floor polish with Owner's maintenance service.
  - 2. Do not move heavy and sharp objects directly over sheet floor coverings. Place plywood or hardboard panels over floor coverings and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- C. Clean sheet floor coverings not more than 4 days before dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean floor coverings according to manufacturer's written recommendations.
  - 1. Before cleaning, strip protective floor polish that was applied after completing installation only if required to restore polish finish and if recommended by floor covering manufacturer.
  - 2. After cleaning, reapply polish to floor surfaces to restore protective floor finish according to floor covering manufacturer's written recommendations. Coordinate with Owner's maintenance program.

### 3.5 SHEET FLOOR COVERING SCHEDULE

- A. Homogenous Sheet Vinyl Flooring, SF-1: Where this designation is indicated, provide sheet floor covering complying with the following:
  - 1. Basis of Design Products:
    - a. Mannington Mill, Inc., Mannington Commercial, Biospec, color as selected. See color schedule in drawings.
  - 2. Fire Resistance:
    - a. Smoke Density: 450 or less, ASTM E662.
    - b. Critical Radiant Flux: Class I rating, ASTM E648.
  - 3. Gauge: 80 mils (2 mm).
  - 4. Sheet Width: 6 feet (1.8 m).
  - 5. Adhesive: Mannington Commercial V-82.
  - 6. Seaming Method: Heat welded using welding rods.
    - a. Welding Rod: Mannington welding rod.

END OF SECTION 09652